SECTION 8. WATERSHED IMPLEMENTATION PLAN EVALUATION AND DRAFT BACKSTOP ALLOCATIONS

This section describes the process by which EPA applied the basinwide and jurisdiction-wide allocations described in Section 6 and developed draft segment-specific or sector-specific allocations. This section specifically describes the methodology that EPA used to evaluate the draft Phase I WIPs, the process EPA used to develop the backstop allocations, the results of EPA's evaluation of the draft Phase I WIPs, and the resultant jurisdiction-specific allocations. Links to each jurisdiction's draft Phase I WIP can be found at www.epa.gov/chesapeakebaytmdl.

The overall process of developing the Chesapeake Bay TMDL had four steps:

1. EPA defined 19 major river basin and jurisdictional loading allocations—July 1, 2010 for nitrogen and phosphorus; August 13, 2010 for sediment. The methodology that EPA used in defining these allocations is described in detail in Section 6.

2. Each jurisdiction developed a draft Phase I WIP that described how it would achieve the target allocations for nitrogen, phosphorus, and sediment assigned to the jurisdictions and basins in step 1.

    a. Using data submitted by the jurisdictions either as input decks or spreadsheets that EPA processed through Scenario Builder and the Chesapeake Bay Watershed Model, each jurisdiction developed suballocations to assign to individual, significant wastewater treatment plant (WWTP) point sources; aggregate nonsignificant WWTPs, stormwater, and CAFO point sources; and nonpoint source sectors draining to each of the 92 segments of the Chesapeake Bay and its tidal tributaries.
    b. Within their WIPs, jurisdictions also proposed strategies and permit conditions to achieve the suballocations, consistent with the expectations that EPA communicated in its letters of September 11, 2008, November 4, 2009, and December 29, 2009, as well as the *Guide for EPA's Evaluation of Phase I Watershed Implementation Plans* issued April 2, 2010. Those expectations are further described in Section 7.
    c. The jurisdiction's proposed allocations and strategies formed the basis of its draft Phase I WIP delivered to EPA on September 1, 2010 (September 3 for Virginia).

3. EPA evaluated the jurisdictions' suballocations and draft Phase I WIPs to determine whether they met the jurisdiction-wide and major river basin allocations, included adequate detail to ensure that NPDES permits are consistent with the assumptions of the WLAs, and provided sufficient reasonable assurance that nonpoint source reductions could be achieved and maintained through credible and "enforceable or otherwise binding" strategies. That evaluation and its results are described in detail here in Section 8.

4. EPA considered the results of the evaluation in its decision to establish an allocation scenario to complete a draft Chesapeake Bay TMDL for public review, including allocations for each of the 92 Bay segments, using suballocations provided in the draft Phase I WIPs, alternative EPA backstop allocations, or a combination of the two. Tables showing the 92 Bay segment-specific and sector-specific allocations of the Chesapeake Bay TMDL are in Section 9.

Because of significant deficiencies in the draft Phase I WIPs to identify and resolve gaps in authority, staff, funding, and accountability systems, EPA determined that none of the jurisdictions' draft Phase I WIPs provided sufficient reasonable assurance that programs would be implemented to achieve the necessary pollutant load reductions. Six of the seven jurisdictions did not reach their jurisdiction-wide allocation targets for nitrogen, phosphorus, and sediment (only Maryland met the jurisdiction-wide target allocations for all three pollutants); no jurisdiction met its target allocations for each pollutant for each major basin within its jurisdiction.

Therefore, consistent with its December 29, 2009, letter to the jurisdictions, EPA is establishing draft backstop allocations that incorporate those parts of the jurisdictions' draft Phase I WIP allocation proposals determined to be acceptable and replace some allocations proposed by jurisdictions; EPA is also providing a finer level of detail for allocations in headwater jurisdictions; and finally, EPA is making additional point source reductions and, in some cases, nonpoint source reductions, as necessary to achieve Bay TMDL nitrogen, phosphorus, and sediment allocations.

This section describes the methodology by which EPA evaluated the jurisdictions' draft Phase I WIPs, the process for developing the backstop allocations, the WIP evaluation findings and the resulting backstop allocations EPA established for each jurisdiction.

8.1 WIP Evaluation Methodology

A team of EPA source sector experts, together with the EPA staff assigned to each of the seven watershed jurisdictions, conducted a rigorous, systematic evaluation of each jurisdiction's draft Phase I WIP. EPA evaluated each draft Phase I WIP on the basis of how well the jurisdiction met the expectations articulated in EPA's November 4, 2009, WIP expectations letter and how well the jurisdiction addressed each of the eight elements set out in the April 2, 2010, *Guide for Evaluation of Phase I Watershed Implementation Plans*.

In conducting the evaluations, EPA addressed two primary questions: (1) did the jurisdiction meet its target allocations for nitrogen, phosphorus, and sediment both jurisdiction-wide and in each of the major river basins to ensure attainment of each of the Chesapeake Bay WQS in all 92 segments of the Bay and its tidal tributaries; and (2) did the jurisdiction provide sufficient reasonable assurance that it would implement a comprehensive approach to achieve necessary nutrient and sediment reductions, including documentation that nonpoint source controls will be achieved and maintained and permitting programs will result in point source reductions, with emphasis on achieving a 60 percent reduction in loadings by 2017.

To evaluate the first question and determine whether a jurisdiction met its nitrogen, phosphorus, and sediment target allocations, EPA evaluated whether a jurisdiction met all three allocation targets in all basin-jurisdictions in the jurisdiction, and, if the jurisdiction missed them, EPA considered the degree to which it missed them. Table 8-1 summarizes the thresholds of the four evaluation tiers.

Table 8-1. Thresholds for four evaluation tiers for assessing whether a jurisdiction met its nitrogen, phosphorus, and sediment target allocations

	Tier 1. Met all target allocations	Tier 2. Met most target allocations	Tier 3. Met some target allocations	Tier 4. Met few target allocations
Threshold	Draft Phase I WIP is at or below target allocations for all three pollutants both jurisdiction-wide and in all basins	Draft Phase I WIP met jurisdiction-wide target allocations for all three pollutants but did not meet basinwide target allocations for at least one pollutant in at least one basin; or Draft Phase I WIP did not meet the jurisdiction-wide target for one or more pollutants but not to such a degree as would cause a violation of WQS	Draft Phase I WIP did not meet jurisdiction-wide target allocations for one or more pollutants but exceeded the target by less than 10%	Draft Phase I WIP did not meet jurisdiction-wide target allocations for one or more pollutants and exceeded the target(s) by more than 10%

To evaluate the second question and determine whether a jurisdiction provided sufficient reasonable assurance through enforceable or otherwise binding commitments to implement necessary controls, EPA evaluated each major pollutant source sector on a number of criteria, including those factors set out in the April 2, 2010, WIP guide. Table 8-2 summarizes the thresholds for placing a major pollutant source sector—wastewater, stormwater, and agriculture—in one of four tiers.

Table 8-2. Thresholds for the four Phase I WIP evaluation tiers for the reasonable assurance assessment

	Tier 1. Met all expectations	Tier 2. Met most expectations	Tier 3: Met some expectations	Tier 4: Met few expectations
Threshold	Addresses all the major reasonable assurance categories identified in the November 4, 2009, letter and the April 2, 2010, WIP evaluation guide.	Identifies and provides reasons for current gap. Spells out numbers/percent of inspections and results. Schedule provided for potential actions. Evidence of or commitment to clear permit conditions. Contingencies in place for high risk/ highly improbable actions. Proposals for attaining additional resources. Schedule to further flesh out details over time.	If any of the following occur: Does not address known, significant programmatic shortfalls and gaps. No discussion of compliance. No schedule for potential actions. Does not inform permit conditions. Proposals not feasible or do not address significant gaps. No commitment/ schedule to develop details over time. Major discrepancies between type and extent of practices in WIP document and input deck.	If many of the following occur: Does not address known, significant programmatic shortfalls and gaps. No discussion of compliance. No schedule for potential actions. Does not inform permit conditions. Proposals not feasible or do not address significant gaps. No commitment/ schedule to develop details over time. Major discrepancies between type and extent of practices in WIP document and input deck.

After evaluating the two key issues, EPA applied a uniform process to determine whether, and if so, to what degree, to apply backstop allocations. In developing the backstop allocations, EPA fully considered the following:

- The jurisdiction's tier placement resulting from EPA's evaluation of whether and to what extent the jurisdiction met its target allocations for nitrogen, phosphorus, and sediment.
- The jurisdiction's tier placement resulting from EPA's evaluation of whether and to what extent the jurisdiction demonstrated sufficient reasonable assurance.
- Whether the proposed WLAs in the jurisdiction's draft Phase I WIP were consistent with EPA's definition of point source loads and could be achieved through implementation of a permitting program.
- EPA's own internal reasonable assurance that the Agency could ensure achievement of the backstopped point source reductions through enhanced program oversight, permit objections, compliance assurance, and enforcement actions.

8.2 WIP Evaluation Results

Where EPA determined that a jurisdiction did not meet its allocation target, EPA applied an allocation-target-based backstop allocation. Where EPA determined that a jurisdiction met its allocation target but did not provide adequate reasonable assurance, EPA applied a reasonable assurance-based backstop allocation. Where EPA determined that a jurisdiction neither met its target allocation nor provided adequate reasonable assurance, EPA applied both forms of

backstop allocation. After applying all backstop allocations that EPA determined were necessary, EPA ran the combination of specific practices and allocations through the Scenario Builder, Watershed Model and WQSTM to ensure that the allocations provided in the Chesapeake Bay TMDL would result in the attainment of WQS.

8.2.1 Target Nutrient/Sediment Allocation Gaps

Each watershed jurisdiction with the exception of Maryland failed to meet at least one of its jurisdiction-wide nitrogen, phosphorus, and sediment target allocations. Maryland failed to meet its target allocations for some major river basins, however. Other jurisdictions also failed to meet their target allocations for nitrogen, phosphorus, and sediment for some river basins. Table 8-3 shows whether each jurisdiction met its jurisdiction-wide target allocations for nitrogen, phosphorus, and sediment. Table 8-4 shows whether each jurisdiction met its basinwide target allocations for nitrogen, phosphorus, and sediment.

Table 8-3. Comparison of the nitrogen, phosphorus, and sediment jurisdiction-wide allocations in the jurisdictions' draft Phase I WIPs with the target allocations for each pollutant

	TN (mpy)			TP (mpy)			TSS (mpy)			
Juris.	WIP	Target[a]	% off target	WIP	Target	% off target	WIP	Target - low end of range	Target - high end of range	% off target[b]
DC	2.20	2.32	-5%	0.12	0.12	-3%	13.99	10.14	11.16	25%
DE	3.44	2.95	17%	0.28	0.26	8%	50.92	57.82	63.61	-20%
MD	39.09	39.09	0%	2.72	2.72	0%	1,222.49	1,116.16	1,227.78	0%
NY	9.48	8.23	15%	0.60	0.52	14%	269.07	292.96	322.26	-17%
PA	76.66	76.77	0%	3.03	2.74	11%	2,117.24	1,902.51	2,092.76	1%
VA	56.58	53.40	6%	5.79	5.41	7%	2,374.61	2,446.14	2,690.75	-12%
WV	5.51	4.68	18%	0.70	0.75	-6%	366.67	240.68	264.75	38%

a. Target numbers are based on proposed amended WQS.
b. Calculated on the basis of the high end of the range
c. Any discrepancy is from rounding figures.

Table 8-4. Comparison of the nitrogen, phosphorus, and sediment basinwide allocations in the jurisdictions' draft Phase I WIPs with the basinwide target nutrient (in millions of pounds per year [mpy]) and sediment allocations (mpy) for 2025

		TN (mpy)			TP (mpy)			TSS (mpy)		
Major river basin	Juris.	WIP	Target[a]	% off target	WIP	Target	% off target	WIP	Target	% off target[b]
Potomac	DC	2.20	2.32	-5%	0.12	0.12	-3%[c]	13.99	11.16	25%
Eastern Shore	DE	3.44	2.95	17%	0.28	0.26	8%	50.92	63.61	-20%
Eastern Shore	MD	10.26	9.71	6%	1.02	1.09	-7%	169.70	182.47	-7%
Patuxent	MD	2.81	2.85	-1%	0.24	0.21	13%	106.69	90.12	18%
Potomac	MD	15.67	15.70	0%	0.90	0.90	0%	682.33	718.97	-5%
Susquehanna	MD	1.18	1.08	10%	0.05	0.05	1%	62.94	65.83	-4%
Western Shore	MD	9.16	9.74	-6%	0.51	0.46	10%	200.83	170.38	18%
Susquehanna	NY	9.48	8.23	15%	0.60	0.52	14%	269.07	322.26	-17%
Eastern Shore	PA	0.27	0.28	-3%	0.01	0.01	-48%	23.62	23.25	2%
Potomac	PA	4.51	4.72	-4%	0.39	0.42	-8%	254.71	243.22	5%
Susquehanna	PA	71.86	71.74	0%	2.63	2.31	14%	1,838.50	1,825.88	1%
Western Shore	PA	0.02	0.02	0%	0.00	0.00	0%	0.41	0.41	0%
Eastern Shore	VA	1.29	1.21	7%	0.14	0.16	-14%	10.54	12.00	-12%
James	VA	27.20	23.48	16%	2.85	2.34	22%	840.93	920.23	-9%
Potomac	VA	17.09	17.46	-2%	1.31	1.47	-11%	741.21	891.08	-17%
Rappahannock	VA	5.88	5.84	1%	0.91	0.90	2%	683.58	749.64	-9%
York	VA	5.13	5.41	-5%	0.57	0.54	6%	98.33	117.80	-17%
James	WV	0.02	0.02	19%	0.01	0.01	38%	28.00	16.65	68%
Potomac	WV	5.48	4.67	18%	0.69	0.74	-7%	338.68	248.11	37%
TOTAL		192.97	187.45		13.23	12.52		6,415	6,673	

a. Target numbers are based on proposed amended WQS.
b. Calculated on the basis of the high end of the range
c. Any discrepancy is from rounding figures.

8.2.2 Insufficient Reasonable Assurance

Because of significant deficiencies in plans presented to resolve gaps in authority, staff, funding and accountability systems, and on the basis of the criteria discussed below and EPA's best professional judgment, EPA determined that none of the seven watershed jurisdictions' draft Phase I WIPs provided adequate reasonable assurance that programs would be implemented to achieve reduction targets, including where significant reductions are projected in the regulated source sectors. The top reasons for insufficient reasonable assurance are the following:

- No strategy for filling recognized staff, funding, legislative, or regulatory gaps.
- Very few enforceable or otherwise binding commitments to achieve reductions from agricultural and stormwater pollutant source sectors. Specific examples include
  - No changes to state technical standards
  - No specific and enforceable commitments to building into MS4 permits and stormwater programs
  - No mention of requiring retrofits despite committing to reduce stormwater loads

- Discrepancies between programs and strategies described in the draft Phase I WIP and the specific level of practices committed to in the detailed WIP input deck (used for running the WIP practices through Scenario Builder and the Chesapeake Bay Watershed Model to determine the resultant nutrient and sediment loads delivered to the Bay).
- Heavy reliance on trading to finance reductions and offset growth, but no commitment to adopt critical trading components such as clear baselines, liability, enforceability, tracking, and regulatory drivers.
- No dates for key actions and program-building milestones.

8.2.3 Summary of Results of EPA Evaluation of Draft Phase I WIPs

The results of EPA's evaluation of the jurisdictions' draft Phase I WIPs can be summarized as follows:

Delaware:

- Target Allocations: Tier 4—nitrogen 17 percent over target; phosphorus 8 percent over target; sediment 20 percent under target
- Reasonable Assurance: Tier 3—Met Some Expectations

District of Columbia

- Target Allocations: Tier 2—nitrogen 5 percent under target; phosphorus 3 percent under target; sediment 25 percent over target
- Reasonable Assurance: Tier 2—Met Most Expectations

Maryland

- Target Allocations: Tier 2—nitrogen and phosphorus 0 percent under target statewide, though over and under in particular major river basins; sediment 0 percent under target
- Reasonable Assurance: Tier 2—Met Most Expectations

New York

- Target Allocations: Tier 4—nitrogen 15 percent over target; phosphorus 14 percent over target; sediment 17 percent under target
- Reasonable Assurance: Tier 3—Met Some Expectations

Pennsylvania

- Target Allocations: Tier 3—after adjusting for Bay Watershed Model and draft Phase I WIP discrepancies in the onsite wastewater treatment systems and forest lands source sectors—nitrogen 40 percent under target; phosphorus 11 percent over target; sediment 1 percent over target
- Reasonable Assurance: Tier 3—Met Some Expectations

Virginia

- Target Allocations: Tier 3—nitrogen 6 percent over target; phosphorus 7 percent over target; sediment 12 percent under target
- Reasonable Assurance: Tier 3—Met Some Expectations

West Virginia

- Target Allocations: Tier 4—nitrogen 18 percent over target; phosphorus 6 percent under target; sediment 38 percent over target
- Reasonable Assurance: Tier 3—Met Some Expectations

Table 8-5 shows the results of EPA's evaluation of both key aspects of the jurisdictions' draft Phase I WIPs in table format.

Table 8-5. Draft Phase I WIP evaluation ratings by jurisdiction by the three major pollutant loading source sectors

Jurisdiction		Reasonable assurance for gap-filling strategies				2025 WIP allocation numbers
		Tier 1: Met all expectations	Tier 2: Met most expectations	Tier 3: Met some expectations	Tier 4: Met few expectations	
DC	SW		Tier 2			Tier 2
	WW		Tier 2			
	Overall		Tier 2			
DE	Ag			Tier 3		Tier 4
	SW			Tier 3		
	WW		Tier 2			
	Overall			Tier 3		
MD	Ag		Tier 2			Tier 2
	SW		Tier 2			
	WW		Tier 2			
	Overall		Tier 2			
NY	Ag			Tier 3		Tier 4
	SW			Tier 3		
	WW			Tier 3		
	Overall			Tier 3		
PA	Ag			Tier 3		Tier 4
	SW				Tier 4	
	WW			Tier 3		
	Overall			Tier 3		
VA	Ag			Tier 3		Tier 3
	SW			Tier 3		
	WW		Tier 2			
	Overall			Tier 3		
WV	Ag			Tier 3		Tier 4
	SW		Tier 2			
	WW			Tier 3		
	Overall			Tier 3		

8.3 Draft Backstop Allocations

EPA established backstop allocations in which EPA determines that the draft Phase I WIP did not achieve the jurisdiction basin target allocation or where the draft Phase I WIP did not provide adequate reasonable assurance that the LA reductions can be achieved by the nonpoint sources.

Backstop allocations are established to fill a loading shortfall in the jurisdiction's draft Phase I WIP or to increase the level of reasonable assurance that the overall TMDL pollutant cap will be achieved.

8.3.1 Methodology for Backstop Allocations

Where EPA determined that a jurisdiction did not meet its target allocations or did not provide adequate reasonable assurance, EPA calculated that jurisdiction's draft backstop allocations by relying on the adequate portion(s) of the jurisdiction's draft Phase I WIP, where possible, and supplementing any remaining shortfall or insufficient amount of reasonable assurance with its allocation adjustments and determinations of reasonable assurance to achieve the necessary reductions.

EPA determined each jurisdiction's backstop allocation for sediment on the basis of whether and to what extent the jurisdiction met the target allocation range for sediment provided on August 13, 2010. EPA ran the BMPs assumed within the backstop allocations through Scenario Builder and the Chesapeake Bay Program Watershed Model. EPA then compared the sediment outputs from that scenario run to the target allocation range for sediment that it communicated to the jurisdictions on August 13, 2010. Where a jurisdiction more than met the target allocation (i.e., came in under the low end of the target range), EPA assigned that jurisdiction the low end of the target allocation range. Where a jurisdiction did not meet its target allocation (i.e., came in above the high end of the target range), EPA assigned that jurisdiction the high end of the target allocation range. Where a jurisdiction met its target allocation (i.e., fell within the low and high ends of the target range), EPA assigned that jurisdiction the amount that resulted from its draft Phase I WIP.

Although a number of backstop options existed, EPA primarily relied on decreasing the WLAs to the point sources. EPA did that because point sources are the pollutant discharging source sector for which the CWA gives EPA the clearest authority to ensure implementation of needed controls. Because EPA has determined that the jurisdictions' draft Phase I WIPs do not achieve the target allocations or do not provide adequate reasonable assurance, EPA is establishing draft backstop allocations that reduce the point source loadings as necessary to compensate for the deficiencies EPA identified in the reasonable assurance components of the jurisdictions' draft Phase I WIPs addressing nonpoint source reductions.

Another aspect of the backstop allocations that EPA established for the nontidal jurisdictions of Pennsylvania, New York, and West Virginia is to make finer-scale allocations than those included in the draft Phase I WIPs provided by the nontidal jurisdictions. EPA stated in its November 4 and December 29, 2009, letters to the jurisdictions that it would do so by establishing draft individual and aggregate, rather than gross, WLAs and LAs for the nontidal jurisdictions if their draft Phase I WIPs did not provide adequate reasonable assurance. That finer-scale allocation sets individual WLAs for the significant municipal and industrial wastewater discharging facilities and sector-specific aggregate WLAs for stormwater, CAFOs, and nonsignificant municipal and industrial wastewater discharging facilities. EPA is establishing the finer-scale draft allocations to provide permit writers with enough information to issue and renew NPDES permits consistent with the Chesapeake Bay TMDL WLAs. Those

allocations are at the same scale as those made to the tidal jurisdictions of Delaware, Maryland, Virginia, and the District of Columbia.

In part on the basis of the assumptions described in Section 8.3.2 below, EPA developed four levels of backstop allocations (Table 8-6). The allocations are based on assumed future EPA actions regarding regulated point source discharges over which EPA has current CWA legal authority (e.g., permitting and enforcement) certain assumptions regarding certain unregulated stormwater and animal feeding operations, and additional appropriate adjustments to nonpoint source loads necessary to meet the jurisdictions' target nitrogen, phosphorus, and sediment allocations. In some cases, the backstop allocations increase the LAs for nonpoint source sectors for which the jurisdictions provided insufficient demonstrations of reasonable assurance.

For purposes of making allocations to stormwater and AFO/CAFO sources not regulated by the NDPES permit program but that could become NPDES regulated facilities (either through residual designation authority or other mechanisms), EPA has included those categories of sources in the draft WLA portion of the TMDL consistent with EPA guidance, *Establishing Total Maximum Daily Loads (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs*, dated November 22, 2002 (EPA 11/22/2002). EPA has authority to designate such nonregulated stormwater sources as regulated by NPDES authorities. See section 402(p)(2)(E) and (6) and 40 CFR 122.26(a)(9)(i)(C)(D). EPA also has authority to designate AFOs as CAFOs as set forth in 40 CFR 122.23(c).

For stormwater, EPA has decided to include in its draft WLA allocation the unregulated stormwater point sources along with NPDES regulated sources. For point sources already covered by NPDES permits, reasonable assurance is provided through EPA's authority to issue or oversee NPDES permitting that adequately assures implementation of the additional water-quality-based controls on those sources necessary to achieve the levels of pollutant reduction specified in Table 8-6. For those sources not currently regulated by NPDES permits, EPA establishes this backstop allocation on the basis of two assumptions: (1) currently unregulated sources will become regulated under the NPDES permit program through appropriate designation/rulemaking/ permits; and (2) the aggregate projected load reductions (based on NPDES effluent controls consistent with the WLA) will result in those needed reductions. Additional controls for currently unregulated sources could be imposed only after the source is *designated* and after a final NPDES permit is issued to cover the source with the added controls. The inclusion of currently unregulated sources in the WLA by itself does not constitute a designation or regulatory action to include such sources in the NPDES program. The TMDL is a plan, not a regulatory determination to change a source's legal status. As with any NPDES permitting or rulemaking decision, applying new controls or designations must be consistent with applicable procedural and substantive requirements.

For the Bay TMDL, EPA believes that the assumptions underlying its backstop allocations are reasonable according to EPA's existing authority under the CWA and EPA's commitment to ensure and track implementation of actions necessary to restore the Bay by 2025 consistent with Executive Order 13508 (FLCCB 2010). EPA has described in the Federal Strategy and elsewhere, including in its May 2010 settlement agreement resolving the Chesapeake Bay Foundation's lawsuit, its plans for rulemaking addressing nutrient and sediment pollution in the

Bay from both the stormwater and CAFO sectors and for tracking and ensuring progress in meeting the TMDL's nutrient and sediment targets.

The same rationale described above also applies to making backstop allocations to the AFO/CAFO sector. For those CAFO facilities already under NPDES permit coverage, EPA has broad authority to ensure that the necessary controls are included to implement the Bay TMDL. As with stormwater point sources, in its backstop allocations EPA has included currently unregulated AFOs in the WLA portion of the TMDL. For such sources, EPA's draft backstop allocation is based on two assumptions: (1) currently unregulated sources will become regulated under the NPDES permit program some day through appropriate designation/rulemaking/permits; and (2) the projected sector wasteload reductions (based on NPDES effluent controls consistent with the WLA) will result in those needed reductions. Additional controls would be imposed only after the source is *designated* and after it is given a permit with the added controls. The inclusion of currently unregulated sources in the WLA by itself does not constitute a designation or regulatory action to include such sources in the NPDES program. The TMDL is a plan, not a regulatory determination to change a source's legal status. As with any NPDES permitting or rulemaking decision, applying new controls or designations must be consistent with applicable procedural and substantive requirements.

Table 8-6. Definitions of the backstop allocation options that EPA considered to replace jurisdictions' WIP point source allocations

Option	Source category		
Backstop	WWTP	Stormwater	AFO Production Area
None	As proposed in jurisdiction's draft Phase I WIP		
Minor	No changes to point source WLAs that would change assumed NPDES permit conditions. Adjustments to allocations, primarily nonpoint source LAs, to meet July 1 and August 13 nutrient and sediment allocations.		
Moderate - Similar to most aggressive jurisdiction's WIP proposal for a sector	Effluent concentrations of 4 mg/L TN, 0.3 mg/L TP at design flow.	Construction: 100% Erosion & Sediment Control MS4: 50% of urban MS4 lands meet aggressive performance standard through retrofit/ redevelopment; 50% of unregulated land treated as regulated, so that 25% of unregulated land meets aggressive performance standard; designation as necessary.	Waste management, barnyard runoff control, mortality composting. Precision feed management for all animals. Same standards apply to currently unregulated AFOs not subject to CAFO permits EXCEPT no feed management on dairies; designation as necessary.
High	Limit of Technology concentrations of 3 mg/L N and 0.1 mg/L P at design flow.	Same as Moderate.	Same as Moderate.
Full	Limit of Technology concentrations of 3 mg/L N and 0.1 mg/L P at current flow.	Same as Moderate.	Same as Moderate.

8.3.2 Assumptions Supporting the Draft Bay TMDL Backstop Allocations

EPA has established draft WLAs for point sources and draft LAs for nonpoint sources based in part upon the assumption that certain nutrient and sediment controls are implemented on a certain percentage of available land. Over time, implementing nutrient and sediment controls could involve a combination of (a) different practices; (b) implementation in different locations; or (c) implementation at different implementation rates so long as an equivalent or greater nutrient and sediment reduction occurs within the portion of the watershed draining to a particular tidal segment of the Chesapeake Bay.

This section summarizes the assumptions that are incorporated into the Chesapeake Bay TMDL allocations, and the allocations proposed by the seven watershed jurisdictions in their draft Phase I WIPs and the full backstop allocations that EPA might apply in the final Chesapeake Bay TMDL. EPA regulations require that NPDES permits be consistent with requirements and assumptions of WLAs. 40 CFR 122.44(d)(1)(vii)(B). The jurisdictions' draft Phase I WIPs and EPA's full backstop allocations *bookend* EPA proposed draft backstop allocations featured in the Bay TMDL.

Nonpoint Sources

The draft Phase I WIPs provided the starting point for EPA's consideration and development of allocation scenarios. EPA assumed for purposes of the evaluation that jurisdictions will implement the practices that will result in the same or greater nutrient and sediment controls as provided in their draft Phase I WIP scenario input decks and as evaluated by the Bay model outputs. EPA also evaluated whether the controls provided an adequate demonstration of reasonable assurance that the load reductions would be achieved. As necessary, such as where necessary to satisfy the requirements of reasonable assurance, EPA has adjusted the nonpoint source allocations to ensure attainment of the nitrogen, phosphorus, and sediment allocations within the 19 basin-jurisdictions in the Chesapeake Bay watershed. EPA will assess jurisdictions' progress toward meeting those LAs through the final Phase I WIPs, the Phase II and Phase III WIPs, and the 2-year milestones. EPA also will consider whether to take appropriate federal backstop actions, as detailed in its letter of December 29, 2009, to the Chesapeake Bay watershed jurisdictions, to ensure that adequate progress is made toward achieving and maintaining the nonpoint source load reductions.

Point Sources—Minor Backstop Allocations (Maryland, District of Columbia)

EPA is establishing minor backstop allocations for certain Maryland point sources in the wastewater, stormwater, and CAFO sectors, and it established minor backstop allocations for the District of Columbia in the wastewater and urban stormwater sectors. This means that EPA is making smaller WLAs to those sectors and will require some adjustment to NPDES permit effluent controls.

Maryland

Maryland's draft Phase I WIP had only minor deficiencies for demonstrating reasonable assurance that it could meet its nutrient and sediment allocations. Therefore, EPA determined that point source allocations in Maryland's draft Phase I WIP were adequate and appropriate as

described below. EPA's backstop allocation for Maryland follows the draft Phase I WIP allocation scheme for point sources.

Wastewater

Maryland's WLAs for WWTPs are based on

- Significant Municipal WWTPs: implementation of Enhanced Nutrient Removal standards that treat wastewater to 4 mg/L TN and 0.3 mg/L TP
- Significant Industrial WWTPs: continued retrofits and optimization to meet Maryland's Tributary Load cap for such facilities
- Nonsignificant Municipal WWTPs: implementation of Maryland's Tributary Strategy nutrient reduction goals
- Nonsignificant Industrial WWTPs: reduce nutrient loads by 26 percent by 2017

Stormwater

Maryland's draft Phase I WIP provides that 50 percent of the state's urban acres developed before 1985 in Phase I MS4 jurisdictions will be redeveloped or retrofit by 2020 to a 25 percent stormwater efficiency. Forty percent of the state's urban acres developed before 1985 in Phase II MS4 jurisdictions and smaller, non-MS4 areas will be redeveloped or retrofit by 2020 to a 25 percent stormwater efficiency. If those retrofit and redevelopment requirements are not sufficient to have practices in place by 2020 to meet Maryland's stormwater WLAs, EPA assumes that Maryland will increase these retrofit and redevelopment requirements accordingly.

CAFOs

Maryland's draft Phase I WIP provides that permitted CAFOs will fully implement comprehensive nutrient management plans that include both nutrient management and soil and water conservation plans. Maryland's draft Phase I WIP also indicates that state and federal cost-share dollars will be used to implement heavy-use poultry area concrete pads, livestock and poultry waste structures, manure transport, runoff control systems, phytase additions to diet to manage nutrient levels in manure, and mortality composters at rates specified in the draft Phase I WIP. If cost-share programs do not achieve those implementation rates, EPA assumes that Maryland will revise its technical standards and CAFO comprehensive nutrient management plan requirements to require those controls. Depending on EPA's review of Maryland's CAFO technical standards that is underway, EPA may require additional changes to the standards to ensure that they are protective of water quality in the tidal waters of Chesapeake Bay and its tributaries and nontidal local waters.

District of Columbia

Almost all sources of nutrients and sediment in the District of Columbia are covered by NPDES permits issued by EPA. Because the jurisdiction's draft Phase I WIP does not meet the District of Columbia's target sediment allocation, EPA is making a smaller sediment allocation that will ensure protection of WQS. EPA's NPDES permit authority and the requirement that NPDES effluent limits be consistent with the WLAs provide reasonable assurance that the smaller allocations will be met. The following section describes the nutrient and sediment controls that

are assumed within the District of Columbia's WLAs. Compliance with effective NPDES permit effluent limits is assumed.

Wastewater

WLAs for wastewater in the District of Columbia are based on the assumption that limits in NPDES permits issued by EPA for Blue Plains WWTP and nonsignificant industrial wastewater dischargers are consistent with the WLAs in the TMDL and that DC WASA's Long Term Control Plan for the CSS in the District of Columbia is fully implemented.

Urban Stormwater

WLAs for urban stormwater are based on the assumption that limits, controls and conditions in NPDES permits for municipal stormwater (the DC MS4 permit), industrial stormwater, and construction activities are consistent with the TMDL WLA and are implemented.

Point Sources—Moderate Backstop Allocations (Virginia)

Wastewater

The WLAs for WWTPs receiving a moderate backstop allocation are based on the assumption that significant municipal WWTPs discharge loads equal to [(design flow) × (concentration)], where concentration is the lesser of Tributary Strategy concentrations, or 4 mg/L TN and 0.3 mg/L TP. The maximum allowable concentration of 4 mg/L TN and 0.3 mg/L TP is equal to the most aggressive statewide WWTP commitment included in any of the jurisdictions' draft Phase I WIPs. The WLAs for industrial WWTPs and nonsignificant WWTPs are assumed at the same level as the Virginia draft Phase I WIP allocations. Facilities may achieve these WLAs through appropriate upgrades or by purchasing credits from an offset or trading program established and operated consistent with the CWA, the Bay TMDL, and EPA guidance.

Urban Stormwater

In the urban lands covered by MS4 permits, the TMDL WLAs for jurisdictions receiving a moderate backstop (Virginia) make an assumption that the MS4 permit has controls sufficient to implement a performance standard equal to the nutrient and sediment reductions that would result from the following practices:

- Regions with karst topography (low permeability); Coastal Plain Lowlands (groundwater).
  - 50 percent of area—impervious cover reduction, e.g., cisterns and collections systems to capture rainwater for reuse
  - 30 percent of area—filtering practices ***e.g., sand filters, bioretention, dry wells,*** designed to reduce nitrogen by 40 percent, phosphorus by 60 percent, and sediment by 80 percent from a pre-BMP condition.
  - 20 percent of area—infiltration practices e.g., infiltration trenches and basins, designed to reduce nitrogen by 85 percent, phosphorus by 85 percent, and sediment by 95 percent from a pre-BMP condition.
- Ultra-urban regions—defined as high- and medium-intensity land cover
  - 50 percent of area—impervious cover reductions, e.g., cisterns and collections systems to capture rainwater for reuse.
  - 30 percent of area—filtering practices, e.g., sand filters, bioretention, dry wells, ***designed to reduce nitrogen by 40 percent, phosphorus by 60 percent, and sediment by 80 percent from a pre-BMP condition***.

  - 20 percent of area—infiltration practices, e.g., infiltration trenches and basins, ***designed to reduce nitrogen by 85 percent, phosphorus by 85 percent, and sediment by 95 percent from a pre-BMP condition.***
- Other urban/suburban regions
  - 10 percent of area—impervious cover reduction.
  - 30 percent of area—filtering practices, e.g., sand filters, bioretention, ***designed to reduce nitrogen by 40 percent, phosphorus by 60 percent, and sediment by 80 percent from a pre-BMP condition***.
  - 60 percent of area—infiltration practices ***designed to reduce nitrogen by 85 percent, phosphorus by 85 percent, and sediment by 95 percent from a pre-BMP condition***.

EPA assumes that the applicable MS4 performance standard applies to 50 percent of urban lands through a combination of retrofit and redevelopment requirements. Jurisdictions may meet the WLA assumptions by: (a) applying a different set of practices that would result in equivalent nutrient and sediment reductions, (b) applying a more aggressive performance standard on a smaller percentage of urban lands included within the WLA, or (c) apply a less aggressive performance standard on a larger percentage of urban lands as long as the total nutrient and sediment reduction from the urban lands assumed to be within the WLA are equal to or greater than the reductions that are assumed within the WLA compared to a pre-BMP condition.

The stormwater WLA also assumes that 50 percent of urban lands that are not covered by MS4 permits are treated like MS4 areas, meaning that 25 percent of unregulated stormwater (i.e., 50 percent of 50 percent) is assumed to meet the performance standard for nutrient and sediment reductions described above. Before imposing such controls, it is assumed that (1) unregulated sources will someday be regulated under the NPDES permit program through appropriate designation/rulemaking/permits; and (2) the categories' projected load reductions (based on NPDES effluent controls consistent with the WLA) will result in those needed reductions. As explained above in Section 8.3.1, additional controls would be imposed only after the source is *designated* or otherwise regulated by an NPDES permit, and after an effective NPDES permit coverage is established.

Finally, the stormwater WLA assumes that all areas subject to a construction general NPDES permit will implement erosion and sediment control practices that would result in a 25 percent reduction in nitrogen, a 40 percent reduction in phosphorus and sediment compared to a pre-BMP condition on bare, construction land.

If a jurisdiction's draft Phase I WIP identifies that urban nutrient management or street sweeping will be implemented on urban lands, EPA assumes that these practices will also be applied to urban lands that contribute stormwater loads to the TMDL WLA, and these practices will be incorporated into MS4 permits, stormwater management plans, and ordinances as appropriate.

CAFOs

The CAFO WLA assumes that all AFO production areas are regulated with an NPDES permit with controls sufficient for a full *treatment train* of waste management, barnyard runoff control, and mortality composting. These practices are assumed to result in approximately 80 percent decrease in nutrient loads from production areas compared to a pre-BMP condition. Further, the

CAFO permitted facilities are assumed to have a control that all animals subject to CAFO permit conditions must receive feed management. EPA also assumes that all animals except dairies (e.g., poultry and swine) on AFOs that are not subject to CAFO permit conditions are assumed to receive feed management. Poultry phytase is assumed to result in a 32 percent reduction in phosphorus content in manure compared to a pre-feed management condition; swine phytase is assumed to result in a 17 percent reduction in phosphorus content in manure compared to a pre-feed management condition. Dairy feed management is assumed to result in a 24 percent reduction in nitrogen content and a 28 percent reduction in phosphorus content in manure compared to a pre-feed management condition.

Jurisdictions may meet the WLA assumptions by: (a) applying a different set of practices that would result in equivalent nutrient and sediment reductions, or (b) applying a more aggressive performance standard on a smaller percentage of AFO production areas as long as the total nutrient and sediment reduction from AFO production areas assumed to be within the WLA are equal to or greater than the reductions that are assumed within the WLA compared to a pre-BMP condition.

Point Sources—High Level Backstop Allocations (Delaware, New York, Pennsylvania, West Virginia)

Wastewater

EPA's backstop WLAs for WWTPs receiving a high level backstop allocation are based on the assumptions that significant municipal WWTPs loads are equal to [(design flow) × (concentration)], where concentration is the current limit of technology, or 3 mg/L TN and 0.1 mg/L TP; and nonsignificant municipal WWTPs discharge loads equal to existing flows (design or current flows if design flow are not available) with TN at 8 mg/L and TP at 2 mg/L. The WLAs for industrial WWTPs make the assumption that the loads are reduced below the loads identified in the jurisdiction's draft Phase I WIP at a rate equivalent to significant municipal WWTPs going from the WIP loading level to an E3 loading level (down to 3 mg/L TN and 0.1 mg/L TP). The WLAs for nonsignificant industrial WWTPs make the assumption that the loads are reduced below those identified in the jurisdiction's draft Phase I WIP at a rate equivalent to taking the significant municipal facilities from a No Action loading level to an E3 loading level—reducing TN from 18 to 3 mg/L and TP from 3 to 0.1 mg/L. NPDES permits for those types of facilities should be consistent with these assumptions. Facilities may achieve these WLAs through appropriate upgrades or by purchasing offsets from an offset or trading program established and operated consistent with the CWA, the Bay TMDL, and EPA guidance.

Urban Stormwater

The same assumptions as those described above for *moderate backstop* allocations for stormwater apply to a *high level backstop* WLAs for urban stormwater and the associated MS4 permits.

CAFOs

The same assumptions as those described above for *moderate backstop* allocations for CAFO and AFO production areas are equally applicable to NPDES permits subject to a *high level backstop* WLA for CAFOs.

Full Backstop Allocations

Although no jurisdiction received a full backstop allocation in the draft Chesapeake Bay TMDL, EPA is reserving the option to apply the full backstop allocations as described below in any of the seven watershed jurisdictions if EPA determines that a jurisdiction's final Phase I WIP is weaker than its draft Phase I WIP and requires additional backstop actions to ensure that point and nonpoint source reductions sufficient to meet WLAs and LAs are achieved and maintained. Some, but not necessarily all, of EPA's potential full backstop actions are described below.

Wastewater

The WLAs for WWTPs under a full backstop allocation might assume that the loading for a significant municipal WWTPs is set equal to [(current flow) × (concentration)], where concentration is the limit of technology, or 3 mg/L TN and 0.1 mg/L TP. The assumption would be that current flow is calculated as the average current flow from 2007 to 2009. For facilities having no current flow data, the WLA would assume that the flows identified in the draft Phase I WIP flows would be adjusted by the average current flow adjustment rates by jurisdiction, which are calculated on the basis of facilities with current flows by jurisdiction and their total current flows/total WIP flows.

The WLAs for nonsignificant WWTPs could be set equal to current or adjusted flows with TN at 8 mg/L and TP at 2 mg/L. The WLAs for industrial WWTPs could be calculated at a level where the reduction rates for significant industrial WWTPs by jurisdiction are equivalent to the significant municipal WWTP reduction from WIP to E3 (3 mg/L TN and 0.1 mg/L TP) and the reduction rates for nonsignificant industrial plants are equivalent to municipal reduction from No Action to E3 (TN from 18 to 3 mg/L and TP from 3 to 0.1 mg/L). The WLAs also could assume that the calculated industrial loads would then be adjusted by their current flows over WIP flows to get the full backstop allocations for industrial WWTPs. Facilities may achieve these WLAs through appropriate upgrades or by purchasing offsets from an offset or trading program established and operated consistent with the CWA, the Bay TMDL, and EPA guidance.

Stormwater

The same assumptions as those described above for *moderate backstop* allocations for stormwater would apply to a *full backstop* allocations for urban stormwater.

CAFOs

The same assumptions as those described above for *moderate backstop* allocations for CAFO and AFO production areas would apply to a *full backstop* allocation scenario for CAFOs.

8.3.3 Summary of Backstop Allocations

On the basis of EPA's evaluations of the three major pollution source sectors combined with the nitrogen, phosphorus, and sediment allocation gaps illustrated in Tables 8-3 and 8-4, EPA assigned a draft backstop allocation according to the assumptions detailed above for each of the seven watershed jurisdictions (Table 8-7).

The draft Phase I WIP submissions contained enough of the expected information that no jurisdiction received a full backstop allocation; however, EPA reserves its authority to apply full backstop allocations if EPA determines that a jurisdiction's final Phase I WIP is weaker than its

draft Phase I WIP or otherwise fails to meet expectations. By contrast, if EPA determines that the jurisdictions' final Phase I WIPs meet all target allocations and demonstrate adequate reasonable assurance, EPA may decide to reduce or eliminate backstop allocations.

In its December 29, 2009, letter to the jurisdictions, EPA outlined additional possible federal actions it could take (USEPA 2009d) (see Section 7.2.4). In correspondence directed individually to each jurisdiction providing detailed feedback on the evaluation of the draft Phase I WIPs, EPA will communicate its intent to pursue additional federal actions if EPA determines that the respective jurisdiction's final Phase I WIP, Phase II WIP, and 2-year milestones do not provide sufficient reasonable assurance that implementation will occur as described their plans.

Table 8-7. Summary of backstop allocations applied to the seven watershed jurisdictions in developing the draft Bay TMDL WLAs and LAs

Jurisidiction	Minor	Moderate	High	Full
Delaware			■	
District of Columbia	■			
Maryland	■			
New York			■	
Pennsylvania			■	
Virginia		■		
West Virginia			■	

Delaware:

- Nitrogen: 2.95 mpy; phosphorus 0.26 mpy; sediment 57.82 mpy.
- It is not possible to meet Delaware's nitrogen allocation by implementing the most aggressive point source controls. Therefore, EPA assumed additional nonpoint source reductions from the agriculture sector and will ensure that the reductions are achieved through additional federal backstop actions, as described in EPA's letter of December 29, 2009, as necessary.
- High-level backstop allocations for Delaware point sources.

District of Columbia

- Nitrogen: 2.32 mpy; phosphorus 0.12 mpy; sediment 11.16 mpy.
- Minor backstop allocation to meet sediment allocation. EPA can ensure that all allocations, including sediment, are met through the NPDES permits issued in the District.

Maryland

- Nitrogen: 39.09 mpy; phosphorus 2.72 mpy; sediment 1,175.47 mpy.
- Minor backstop allocations to meet and nitrogen, phosphorus, and sediment allocations in each of Maryland's five major river basins.

New York

- Nitrogen: 8.23 mpy; phosphorus 0.52 mpy; sediment 292.96 mpy.
- High level backstop allocations for New York point sources.

- It is not possible to meet New York's nitrogen allocation by implementing the most aggressive point source controls. Therefore, EPA assumed additional nonpoint source reductions from the agriculture sector and will ensure that the reductions are achieved through additional federal backstop actions, as described in EPA's letter of December 29, 2009, as necessary.
- Finer-scale WLAs and LAs (same level of detail as the tidal jurisdictions) to help ensure that NPDES permits will be consistent with Chesapeake Bay TMDL WLAs.

Pennsylvania

- Nitrogen: 76.77 mpy; phosphorus 2.74 mpy; sediment 2,013.62 mpy.
- High-level backstop allocations for Pennsylvania point sources.
- Finer-scale WLAs and LAs (same level of detail as tidal jurisdictions) to help ensure that NPDES permits will be consistent with Chesapeake Bay TMDL WLAs. Excess loads from reducing WWTP allocations distributed back to forest, onsite wastewater treatment systems and agriculture source sectors.

Virginia

- Nitrogen: 53.40 mpy; phosphorus 5.41 mpy; sediment 2,469.35 mpy.
- Moderate backstop allocations for Virginia point sources. Excess loads from reducing WWTP allocations distributed back to urban stormwater, onsite wastewater treatment systems, and agriculture source sectors.

West Virginia

- Nitrogen: 4.68 mpy; phosphorus 0.75 mpy; sediment 264.76 mpy.
- High-level backstop allocations for West Virginia point sources.
- It is not possible to meet West Virginia's nitrogen and sediment allocations by implementing the most aggressive point source controls. Therefore, EPA assumed additional nonpoint source reductions from the agriculture sector and will ensure that those reductions are achieved through additional federal backstop actions, as described in EPA's letter of December 29, 2009, as necessary.
- Finer-scale WLAs and LAs (same level of detail as tidal jurisdictions) to help ensure that NPDES permits will be consistent with Chesapeake Bay TMDL WLAs.

The draft proposed backstop allocations for nitrogen, phosphorus, and sediment listed above, which are based on proposed amended WQS, also are presented in Table 8-8 at both the jurisdiction and major river basin scales for each of the jurisdictions. These draft allocations are further sub-allocated to the 92 Bay segment watersheds by draft individual and aggregate WLAs and LAs in Section 9.

Table 8-8. Chesapeake Bay watershed nutrient and sediment draft backstop allocations by jurisdiction and by major river basin to achieve the proposed amended Chesapeake Bay WQS

Jurisdiction	Basin	Nitrogen draft allocations (million lbs/year)	Phosphorus draft allocations (million lbs/year)	Sediment draft allocations (million lbs/year)
Pennsylvania	Susquehanna	71.74	2.31	1,758.20
	Potomac	4.72	0.42	233.93
	Eastern Shore	0.28	0.01	21.12
	Western Shore	0.02	0.001	0.37
	PA Total	76.77	2.74	2,013.62
Maryland	Susquehanna	1.08	0.05	62.94
	Eastern Shore	9.71	1.09	169.70
	Western Shore	9.74	0.46	170.38
	Patuxent	2.85	0.21	90.12
	Potomac	15.70	0.90	682.33
	MD Total	39.09	2.72	1,175.47
Virginia	Eastern Shore	1.21	0.16	10.91
	Potomac	17.46	1.47	810.07
	Rappahannock	5.84	0.90	688.51
	York	5.41	0.54	107.09
	James	23.48	2.34	852.77
	VA Total	53.40	5.41	2,469.35
District of Columbia	Potomac	2.32	0.12	11.16
	DC Total	2.32	0.12	11.16
New York	Susquehanna	8.23	0.52	292.96
	NY Total	8.23	0.52	292.96
Delaware	Eastern Shore	2.95	0.26	57.82
	DE Total	2.95	0.26	57.82
West Virginia	Potomac	4.67	0.74	248.11
	James	0.02	0.01	16.65
	WV Total	4.68	0.75	264.76

Although the draft Phase I WIPs were evaluated based on proposed amended WQS, it is possible that the proposed amendments will not be completed before December 31, 2010 and that, as a result, the final TMDL allocations will need to be made based on current WQS. Table 8-9 lists the draft proposed allocations for nitrogen, phosphorus, and sediment based on current WQS at both the jurisdiction and major river basin scales. Just as with the allocations based on proposed amended WQS, these draft allocations are further sub-allocated to the 92 Bay segment watersheds by draft individual and aggregate WLAs and LAs in Section 9.

Table 8-9. Chesapeake Bay watershed nutrient and sediment draft allocations by jurisdiction and by major river basin to achieve the current Chesapeake Bay water quality standards.

Jurisdiction	Basin	Nitrogen draft allocations (million lbs/year)	Phosphorus draft allocations (million lbs/year)	Sediment draft allocations (million lbs/year)
Pennsylvania	Susquehanna	56.89	1.76	1,756.80
	Potomac	3.50	0.33	233.93
	Eastern Shore	0.20	0.01	21.12
	Western Shore	0.01	0.001	0.17
	PA Total	60.59*	2.10	2,012.03
Maryland	Susquehanna	0.87	0.04	63.72
	Eastern Shore	7.18	0.83	51.13
	Western Shore	5.99	0.25	81.81
	Patuxent	2.03	0.13	91.83
	Potomac	11.42	0.63	659.64
	MD Total	27.49	1.88	948.13
Virginia	Eastern Shore	0.79	0.12	10.86
	Potomac	13.31	0.98	802.13
	Rappahannock	4.39	0.60	688.29
	York	3.83	0.35	106.95
	James	16.44	1.55	848.89
	VA Total	38.77	3.60	2,457.13
District of Columbia	Potomac	1.47	0.05	11.37
	DC Total	1.47	0.05	11.37
New York	Susquehanna	6.39	0.43	289.02
	NY Total	6.39	0.43	289.02
Delaware	Eastern Shore	2.22	0.19	54.50
	DE Total	2.22	0.19	54.50
West Virginia	Potomac	3.61	0.37	263.22
	James	0.02	0.01	22.95
	WV Total	3.63	0.38	286.17

* Any discrepancies in totals are due to rounding.